



MORNING BRIEFING

February 7, 2019

Spy Games

See the [collection](#) of the individual charts linked below.

(1) CEOs tacitly support Trump's calling out China on trade and IP. (2) Case studies of how China steals IP. (3) Swiping Tappy from T-Mobile. (4) Undercover hackers uncovered. (5) Planting spies in US companies. (6) Recruiting Chinese students studying abroad. (7) Communication Services companies on spending spree for streamable content.

Geopolitics: Chinese Checkers. No one is happy about the tariffs the US placed on Chinese goods. It hurts the US economy. It hurts the Chinese economy. But there hasn't been a huge outcry against the tariffs by US business executives. Perhaps the tariffs have gained tacit support because CEOs know that the tariffs are about more than just unfair trade practices.

A larger, more important battle is raging over growing evidence that China is systematically stealing US intellectual property (IP). The country isn't playing by the same rules as the US, and that's a problem—a big enough problem to slap tariffs on Chinese goods and risk recession in both their country and ours.

It's a problem that the US government, businesses, and universities appear to be recognizing. With that in mind, I asked Jackie to look at some of the spying allegations the US government has recently brought against the Chinese. Here is her report:

(1) *T-Mobile*. The US government is accusing Huawei of stealing IP over many years, and the Chinese telecom company is denying the charges. The federal suit refers back to a 2014 lawsuit brought by T-Mobile, which had hired Huawei to manufacture cell phones. T-Mobile claimed Huawei employees stole the IP behind a T-Mobile testing robot, Tappy, which performed quality-control tests on cell phones.

Huawei employees “asked detailed questions about the robot and repeatedly sought information about proprietary technology,” a 1/16 *WSJ* [article](#) reported, citing the T-Mobile lawsuit. The article continued: “In one alleged instance, two Huawei employees slipped a third one into a testing lab to take unauthorized photos of the robot. One employee also tried to hide the fingerlike tip of ‘Tappy’ behind a computer monitor so that it would be out of view of a security camera, and then tried to sneak the tip out of the lab in his laptop-computer bag, according to the lawsuit. That employee later admitted that he took the component because Huawei’s research and development office believed the information would improve its own robot, the lawsuit said.”

Huawei countered that Tappy wasn't secret. Video of the robot was on YouTube, and details of its design were published in numerous patents. “[A] jury in 2017 awarded T-Mobile \$4.8 million after it found Huawei breached its contract with the network operator. The jury didn't award T-Mobile any damages in a separate claim of misappropriation of trade secrets and didn't find Huawei's actions in that claim ‘willful or malicious.’”

The federal indictment also suggests that Huawei employees in China pushed their US counterparts to

steal information about Tappy. “A program ... awarded monthly bonuses to employees who stole the most valuable information from rivals and posted it on an internal website,” a 1/29 *WSJ* [article](#) stated.

These charges are in addition to the high-profile, US case against Huawei’s finance chief Meng Wanzhou, daughter of Huawei’s founder. She’s being accused of violating US sanctions against Iran by lying to banks about ties between Huawei and a company that did business in Iran, a 12/11 *WSJ* [article](#) states. Meng is required to remain near her home in Canada while a Canadian court decides whether to extradite her to the US.

(2) *Micron Technology*. The US Justice Department alleges that United Microelectronics (UMC, a Taiwan semiconductor foundry), Fujian Jinhua Integrated Circuit (a state-owned Chinese company), and three Taiwan nationals stole talent and trade secrets from Micron Technology. It follows a lawsuit Micron brought in a Chinese court.

A former Micron employee in Taiwan moved to UMC and recruited two others who were to bring Micron’s trade secrets with them, according to a federal indictment cited in a 11/1 *WSJ* [article](#). The alleged ringleader arranged for UMC to partner with Jinhua, where he then went to work to develop the same technology.

The article continued: “Among the files alleged to have been pilfered from Micron are hundreds of pages of documents and large Microsoft Excel spreadsheets containing precise design specifications for the architecture of various dynamic random access memory, or DRAM, products. Micron is the only U.S.-based company to manufacture DRAM devices, and the value of the stolen IP was at least \$400 million and as high as \$8.75 billion, according to the indictment.”

(3) *General Electric*. In October, a Chinese intelligence officer was charged with conspiring to steal trade secrets from GE Aviation and other companies. Yanjun Xu allegedly concealed his position as a deputy division director in a department of the Ministry of State Security, China’s intelligence agency. Instead, he claimed he was affiliated with Jiangsu Science & Technology Promotion Association.

According to a 10/10 *WSJ* [article](#), “Prosecutors allege that he worked from 2013 through this year with others associated with the ministry and several Chinese universities to obtain sensitive and proprietary information from U.S. aviation and aerospace companies. They say he worked in part by recruiting U.S. employees to travel to China for what was characterized as an exchange of ideas.”

Xu allegedly helped an official at a Chinese aeronautics university target an engineer at GE Aviation, in an effort to get information about a material GE uses in aviation engines, composite materials used in manufacturing fan blades and encasements, and other technology. GE said the impact on the company was minimal, and no sensitive information relating to military programs was targeted or obtained.

Federal prosecutors also charged 10 Chinese intelligence officers—also believed to be part of China’s Ministry of State Security—and other individuals with attempting to hack into US aviation companies, a 10/31 *WSJ* [article](#) reported. They allegedly were aiming to hack into companies that built parts for the turbofan engine.

“This case is not an isolated incident. It is part of an overall economic policy of developing China at American expense,” said John Demers, the head of the Justice Department’s national-security division, according to the *WSJ* article.

There reportedly have been cyber attacks on telecom service providers as well. Those attacks are considered extremely problematic because telecom systems provide service to so many other

companies that then may be vulnerable as well.

(4) *The Navy, NASA, and others.* Federal prosecutors charged Zhu Hua and Zhang Jianguo in hacking attacks against the US Navy, NASA, the Energy Department and dozens of companies, a Reuters [article](#) on 12/20 stated. Sources told Reuters that “the hackers breached the networks of Hewlett Packard Enterprise and IBM, then used the access to hack into their clients’ computers. IBM said it had no evidence that sensitive data had been compromised. HPE said it could not comment.”

“No country poses a broader, more severe long-term threat to our nation’s economy and cyber infrastructure than China,” FBI Director Chris Wray said in the Reuters article. “China’s goal, simply put, is to replace the U.S. as the world’s leading superpower, and they’re using illegal methods to get there.”

(5) *Leaning on students.* Ji Chaoqun, a Chinese electrical engineering student in Chicago, sent an email to a Chinese intelligence official that contained “background reports on eight US-based individuals who Beijing could target for potential recruitment as spies, according to a federal criminal complaint,” a 2/1 CNN [article](#) stated. The eight targets were naturalized US citizens originally from Taiwan or China. Seven had worked for or retired from US defense contractors, and all of them worked in science and technology.

Ji was arrested and pled not guilty. “Beijing is leaning on expatriate Chinese scientists, businesspeople and students like Ji—one of roughly 350,000 from China who study in the US every year—to gain access to anything and everything at American universities and companies that’s of interest to Beijing, according to current and former US intelligence officials, lawmakers and several experts,” the article stated.

Senator Mark Warner (D-VA) told CNN: “In China, only the government can grant someone permission to leave the country to study or work in the United States and we have seen the Chinese government use their power over their citizens to, in some cases, encourage those citizens to commit acts of scientific or industrial espionage to the benefit of the Chinese government.”

China is certainly not using our rule book.

Communication Services: Streaming Spending Spree. Spending on content has gone nuts. Don’t get us wrong—we love this Golden Age of TV. Home entertainment doesn’t get much better than binge-watching “The Marvelous Mrs. Maisel” or “Narcos.” But you have to wonder how long the top players can continue to fund this amazingly expensive race for content supremacy. Let’s take a look at the streaming wars:

(1) *Netflix* spent \$12 billion on content last year, and analysts expect that number to grow to \$15 billion this year. To help pay for this spending, the company recently raised its most popular subscription price in the US to \$12.99 a month from \$10.99. Netflix has a major lead in the streaming wars with 139 million subscribers, after adding 1.5 million subscribers in the US and 7.3 million internationally in Q4, according to a 1/17 [article](#) in *Variety*.

(2) *Amazon’s* Q4 earnings conference call didn’t reveal what it spent on programming last year or what it plans to spend this year—just that the amount will increase given continued strong adoption and usage. Amazon views Prime as an offering that builds connectivity with members and improves renewal rates.

Amazon said in April that there were more than 100 million Prime members globally, a 1/31 *Variety* [article](#) reported. “Amazon claimed that during the holiday quarter, ‘tens of millions of customers’

worldwide started free trials or began paid memberships of its Prime program and that it added a record number of Prime members in 2018.”

(3) *Disney* is the latest media giant to jump into streaming wars. CEO Robert Iger sees the streaming business as a way to leverage the people and capabilities of the company's existing entertainment businesses. Disney plans three distinct services: ESPN+, Disney+, and Hulu, in which it owns a 30% stake.

ESPN+ rolled out in April for \$4.99 a month. The 2 million subscribers (as of Q4's end) enjoy mostly niche sports unavailable on ESPN (e.g., UFC Fight Nights, tennis, and college sports). Disney plans to launch Disney+ with content from Marvel, Star Wars, and Pixar. National Geographic content will be added after closing the 21st Century Fox deal later this year.

Assuming that acquisition is approved, it will double Disney's stake in Hulu to 60%. Most of 21st Century Fox's FX network content (less kid-oriented than Disney's) would appear on Hulu. Hulu added 8 million subscribers last year, ending the year at 25 million. Its variety of subscription plans start at \$5.99 per month.

Disney is all in, with plans to pull its content from Netflix and forego licensing income. Doing so will hurt Disney's operating income by about \$150 million this fiscal year. Its expenses will also increase; Disney's new direct-to-consumer division reported a quarterly loss of \$136 million in fiscal Q1.

(4) *An ever-growing list.* Consumers arguably have tons of choice already, and the dizzying array of viewing options will only compound as the number of streamers continues to proliferate. CBS's All Access and Showtime OTT are already available and expected to have 8 million subscribers this year.

WarnerMedia (TimeWarner before the AT&T acquisition) plans a streaming service in Q4 that carries movies and TV shows from its Warner Bros studio, Turner, and HBO. WarnerMedia owns “Batman,” the Harry Potter movies, “Friends,” and “The Big Bang Theory.” It recently made a deal to ensure that “Friends,” which is available on Netflix, will be able to move to WarnerMedia's service when it launches.

Comcast's *NBCUniversal* also plans to launch an ad-supported streaming service in 2020 that will be free for Comcast pay-TV subscribers and available for a monthly fee to others, noted a 1/15 *WSJ* [article](#).

(5) *Communication Services.* All of the above companies reside in the new S&P 500 Communication Services sector with the exception of Amazon, a member of the S&P 500 Consumer Discretionary sector's Internet & Direct Marketing Retail industry.

Since the market bottomed on December 24, the S&P 500 Communication Services sector has outperformed the S&P 500. Here's the performance derby since the market's recent low through Tuesday's close: Industrials (21.8%), Energy (20.7), Consumer Discretionary (18.8), Tech (18.6), Communication Services (18.5), Financials (16.9), S&P 500 (16.4), Real Estate (15.6), Materials (13.8), Health Care (11.9), Consumer Staples (9.8), and Utilities (6.1) ([Fig. 1](#)).

The Communication Services sector is expected to grow revenue 9.7% this year, a modest slowdown from last year's 11.6% growth. The deceleration in earnings growth is sharper, to 4.9% this year from 22.3% in 2018. At a recent 16.6, the sector's forward P/E is toward the upper end of the range in which it usually trades.

CALENDARS

US. Thurs: Jobless Claims 223k, Consumer Credit \$17.5k, EIA Natural Gas Report, Bullard, Clarida.
Fri: Baker-Hughes Rig Count. (Econoday estimates)

Global. Thurs: Germany Industrial Production 0.8%*m/m*/-3.3%*y/y*, Japan Leading & Coincident Indicators 97.9/102.2, Japan Household Spending 0.9%, Mexico CPI 4.5% *y/y*, BOE Bank Rate & Asset Purchase Target 0.75%/ £435b, Bank of Mexico Overnight Rate 8.25%, ECB Publishes Economic Bulletin, BOE Inflation Report. **Fri:** Germany Trade Balance €17.3b, Canada Employment Change & Unemployment Rate 5k/5.7%. (DailyFX estimates)

STRATEGY INDICATORS

Stock Market Sentiment Indicators ([link](#)): The Bull/Bear Ratio (BBR) this week advanced for the fifth week, to 2.36, since falling to 0.86 five weeks ago—which was the lowest since mid-February 2016. The BBR's bullish sentiment component jumped 18.7ppts over the past five weeks to a 14-week high of 48.6% from 29.9%—which was the fewest bulls since February 2016; bullish sentiment was as high as 61.8% in early October. Meanwhile, bearish sentiment dropped 14.0ppts over the same period, to 20.6% from 34.6%—which was the most bears since March 2016; it's back down near the narrow band (below 20.0%) in which it had fluctuated for most of H2-2018. The correction count fell 2.8ppts this week to 30.8%, with all moving to the bullish camp; it was at 41.1% nine weeks ago—which was the highest percentage since late September 2015. The AAll Ratio fell from 53.8% to 50.0% last week, with bullish sentiment down from 37.7% to 31.8% and bearish sentiment falling for the second week from 36.3% to 31.8%.

S&P 500 Earnings, Revenues, Valuation & Margins ([link](#)): Consensus S&P 500 forward revenues and earnings forecasts both moved lower last week. Forward revenues dropped 0.2% *w/w* and is now down 1.2% from a record high in early January. Forward earnings is now 2.7% below its record high in early December after dropping 0.5% *w/w*. Analysts expect forward revenues growth of 5.3% and forward earnings growth of 6.1%, down from week-earlier readings of 5.5% and 6.6%, respectively. Forward revenues growth is down from a seven-year high of 6.3% in February 2018 to an 18-month low, and forward earnings growth is down from a six-year high of 16.9% last February to a 33-month low. Prior to the passage of the Tax Cuts and Jobs Act (TCJA), forward revenues growth was 5.5% and forward earnings growth was 11.1%. Turning to the annual growth expectations, analysts expect revenue growth to slow from 8.9% in 2018 to 5.2% in 2019 and 5.3% in 2020. They're calling for earnings growth to slow sharply from 23.8% in 2018 to 5.0% in 2019 before improving to 11.2% in 2020. The forward profit margin edged down *w/w* to a nine-month low of 12.1%, and is down 0.3ppt from a record high of 12.4% in mid-September. Still, that's up from 11.1% prior to the passage of the TCJA in December and compares to a 24-month low of 10.4% in March 2016. The S&P 500's forward P/E rose to a nine-week high of 15.8 from 15.5. That's up from 14.3 during December, which was the lowest reading since October 2013 and down 23% from a 16-year high of 18.6 at the market's valuation peak in late January. The S&P 500 price-to-sales ratio of 1.91 is up from 1.88 a week earlier and 1.75 during December, which was the lowest since November 2016 and down 19% from a record high of 2.16 in late January.

S&P 500 Sectors Earnings, Revenues, Valuation & Margins ([link](#)): Consensus forward revenues fell *w/w* for eight of the 11 sectors, and forward earnings rose for just one sector. Industrials was the only sector to have forward earnings rise *w/w*. Forward revenues and earnings are at or around record highs for 4/11 sectors: Consumer Discretionary, Health Care, Industrials, and Tech. The forward profit margin appears to be rolling over from recent highs for all but Financials and Utilities. They were at record highs during 2018 for 8/11 sectors, all but Energy, Health Care, and Real Estate. Energy's forward

earnings had about tripled from the 18-year low in April 2016 through early November, but has tumbled 24.6% since then. Forward P/S and P/E ratios are now well below their 2018 highs for all sectors, and had been at multi-year lows during December for five sectors: Energy, Financials, Industrials, Materials, and Tech. Energy's forward P/E of 16.9 is on the rise again as earnings deteriorate. Due to the TCJA, higher margins are expected y/y in 2018 for all sectors but Real Estate, but that sector's earnings includes gains from property sales and typically improves as the year progresses. The outlook for 2019 shows lower margins are now expected y/y for 5/11 sectors: Communication Services, Energy, Health Care, Information Technology, and Real Estate. During the latest week, the forward profit margin fell for five of the 11 sectors, and nine are now down from record highs just a few months ago. Here's how the sectors rank based on their current forward profit margin forecasts versus their highs during 2018: Information Technology (22.1%, down from 23.0%), Financials (18.9, down from 19.2), Real Estate (15.3, down from 17.0), Communication Services (14.7, down from 15.4), Utilities (12.8, down from 13.0), S&P 500 (12.1, down from 12.4), Materials (10.8, down from 11.6), Health Care (10.5, down from 11.2), Industrials (at a record high of 10.3), Energy (6.5, down from 8.0), Consumer Staples (7.5, down from 7.7), and Consumer Discretionary (7.5, down from 8.3).

S&P 500 Q4 Earnings Season Monitor ([link](#)): With nearly 60% of the S&P 500 companies finished reporting earnings and revenues for Q4-2018, y/y revenue and earnings growth remains strong, but the surprise metrics have weakened relative to Q3's results due to Q4's trading turmoil and slowing growth in China. Of the 282 companies in the S&P 500 that have reported through mid-day Tuesday, just 72% exceeded industry analysts' earnings estimates. Collectively, the reporters have exceeded forecasts by an average of 3.7% and averaged a y/y earnings gain of 14.6%. If those results hold to the end of the quarter, it would mark the smallest earnings beat since Q2-2014 and the slowest y/y growth since Q3-2017. On the revenue side, just 61% of companies beat their Q4 sales estimates so far, with results coming in 0.6% above forecast and 7.9% higher than a year earlier. That marks the smallest revenue beat since Q4-2016, and revenue growth is the slowest in five quarters. Earnings growth is positive y/y for 76% of companies, vs a higher 86% at the same point in Q3, and Q4 revenues have risen y/y for 79% vs a higher 83% during Q3. Looking at earnings during the same point in the Q3-2018 reporting period, a higher percentage of companies (77%) in the S&P 500 had beaten consensus earnings estimates by a greater 6.3%, and earnings were up a higher 24.6% y/y. With respect to revenues at this point in the Q3 season, a lower 57% had exceeded revenue forecasts by a higher 0.8%, and sales rose a greater 8.1% y/y. The results for Q4 are still subject to change as more companies report, but the slowdown in revenue and earnings growth from Q3 is becoming more apparent. Q4-2018 should mark the tenth straight quarter of positive y/y earnings growth and the 11th of positive revenue growth.

US ECONOMIC INDICATORS

Merchandise Trade ([link](#)): The real merchandise trade deficit narrowed for the first time in six months, after posting its biggest gap in the history of the series going back to 1994 in October. November's deficit narrowed to -\$80.8 billion after swelling from -\$75.5 billion in May to a record gap of -\$88.3 billion in October. The October/November average deficit was -\$84.6 billion, matching Q3's average monthly deficit, suggesting trade had little impact on GDP last quarter. Real exports remained stalled around record highs, edging up 0.3% in November after a 0.8% loss and a 2.0% gain the prior two months. Meanwhile, real imports plunged 3.1% during the two months ending November after soaring 4.3% the prior five months to a new record high. Real exports were a mixed bag. Real capital goods exports (less autos) climbed for the third time in four months, by a total of 4.3%, to a new record high, while exports of industrial supplies & materials advanced for the second time in three months, by 5.7%, nearing a new record high. Meanwhile, exports of foods, feeds & beverages tumbled 21.9% during the four months ending November, while auto exports fell 5.5% over the same period. Exports of nonfood consumer goods (less autos) remained in a very volatile flat trend around record highs, dropping 5.0% in November. Real imports were also mixed. Real imports of autos climbed for the fifth time in six

months by 8.2% to a new record high, while capital goods imports continued to bounce around record highs. Real imports of nonfood consumer goods (less autos) sank 7.4% in November after a three-month gain of 9.4% to a new record high, while imports of foods, feeds & beverages plunged 5.7% since reaching a new record high in July. Real imports of industrial supplies & materials contracted 6.0% the past three months, with nearly all the setback occurring in November.

GLOBAL ECONOMIC INDICATORS

Germany Manufacturing Orders ([link](#)): Recession fears have surfaced in Germany as orders unexpectedly dropped for the second month, with the industrial base struggling in the face of trade tensions, slowing global growth, and Brexit anxiety. Orders fell 1.8% during the two months through December, driven by a 4.6% drop in foreign orders—with billings from inside and outside the Eurozone contracting 7.0% and 2.9%, respectively, over the period. In December, total orders contracted 7.0% y/y, the steepest yearly decline since 2012. Looking at the performance in orders for the main industrial groupings over the past 12 months, intermediate goods billings are down the sharpest, by 9.6%, with domestic (-10.2% y/y), Eurozone (-3.8), and Non-Eurozone (-13.3) orders all in the red. Billings for capital goods slumped 6.7% y/y, with Eurozone (-17.0) and Non-Eurozone (-7.3) billings accounting for the decline; domestic orders (2.7) were still above year-ago levels. Meanwhile, consumer goods orders climbed 1.6% y/y, as gains in Eurozone (6.4) and domestic (3.1) billings more than offset a drop in Non-Eurozone (-3.9) ones. Meanwhile, January's IHS Markit M-PMI suggests further downside for Germany's manufacturing sector, contracting for the first time in four years, dropping to 49.7 last month.

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